

Nevada.—Winnemucca, 29th.
New Hampshire.—Mount Washington, 25th.
New York.—Albany, 1st, 8th, 31st; Setauket, 7th, 31st;
New York City, 15th, 31st; Palmyra, 31st.
North Carolina.—Wilmington and Charlotte, 4th; Weldon,
 31st.
Ohio.—North Lewisburg, 1st; Cleveland, 13th, 14th, 31st;
Cincinnati, 17th; Portsmouth, 17th, 31st; Columbus, West
 Milton, and Yellow Springs, 31st.
Pennsylvania.—Philadelphia, 6th; Franklin, 30th, 31st;
 Zionsville, 31st.
Rhode Island.—Block Island, 7th.
Tennessee.—Nashville and Milan, 28th.
Virginia.—Accotink, 5th; Variety Mills, 5th, 6th, 29th, 30th;
 Lynchburg, 5th, 29th, 30th, 31st; Norfolk and Cape Henry,
 6th; Chincoteague, 6th, 29th, 30th.
Washington Territory.—Walla Walla, 19th, 27th to 31st;
 Port Angeles, 25th; Pysht, 26th.

Table of excessive and greatest monthly precipitation for December, 1886.

Station.	Specially heavy.		Largest monthly.	Amount.	Station.	Specially heavy.		Largest monthly.	Amount.
	Date.	Amt.				Date.	Amt.		
British Columbia.					Oregon—Con.				
New Westminster.				15.89	Mount Angel.	8	2.10		12.45
California.					Bandon.	8	2.05		11.97
Fort Gaston.	10, 11	3.12		15.81	Do.	27, 28	2.42		
Do.	27, 28	3.70			Portland.	25, 26	2.20		11.52
Delta.				8.81	East Portland.				11.34
Emigrant Gap.				7.40	Albany.				10.31
Colfax.				6.12	Eola.				9.08
Conestoga.					Roseburg.				7.30
Voluntown.				6.15	Fort Klammath.				6.55
Florida.					Rhode Island.				
Pensacola.	10, 11	2.37			Block Island.				6.70
Sanford.	10, 11	2.18			Tennessee.				
Alva.	31	2.00			Greenoville.	5	3.00		
Illinois.					Jonesborough.	5	3.00		
Marengo.	23	2.00			Parkeville.	6	2.00		
Anna.	23, 24	2.03			Washington Ter.				
Louisiana.					Neah Bay.	2, 3	3.65		30.70
Grand Coteau.	28	2.12			Do.	15, 16, 17	3.10		
Eastport.	25	2.17		6.51	Do.	27, 28	3.60		
Orono.				6.38	Do.	30, 31	2.05		
Massachusetts.					Tatoosh Island.	12, 13	4.02		25.84
New Bedford.				6.92	Do.	15, 16	2.56		
North Carolina.					Do.	27, 28	3.17		
Charlotte.		5	2.06	6.26	Do.	31	2.38		
Flat Rock.	4, 5, 6	3.95			Fort Canby.	6, 7	2.79		17.35
Hatteras.	5	2.65			Do.	31	2.58		
Oregon.					Olympia.	31	2.50		13.38
Astoria.	2, 3	2.02		16.89	Bainbridge Isl'd.				11.15
Do.	20, 21	2.12			Tacoma.	31	2.82		11.09
Gardiner.	8	2.65		13.97	Walla Walla.				7.86
Do.	28, 29	3.64			Port Angeles.				7.71

WINDS.

The most frequent directions of the wind during December, 1886, are shown on chart ii by the arrows flying with the wind; they are also given in the table of miscellaneous meteorological data. In the Missouri and upper Mississippi valleys, Dakota, and Minnesota, the wind blew mostly from the north or northwest; in the Lake regions the prevailing direction was west; in New England and the middle Atlantic states, northwest. In other portions of the country the winds were variable.

HIGH WINDS.

[In miles per hour.]

Wind-velocities of fifty or more miles per hour were recorded during the month, as follows:

Mount Washington, New Hampshire, 84, nw., 1st; 84, nw., 2d; 83, w., 3d; 89, w., 4th; 54, se., 7th; 78, nw., 8th; 76, nw., 9th; 99, nw., 10th; 98, nw., 11th; 54, s., 13th; 84, w., 14th; 71, sw., 15th; 92, nw., 16th; 94, nw., 17th; 50, sw., 18th; 70, w., 19th; 78, w., 21st; 56, sw., 23d; 64, sw., 24th; 100, nw., 25th; 87, w., 27th; 77, nw., 28th; 78, w., 29th.

Pike's Peak, Colorado, 54, w. and nw., 1st; 52, nw., 2d; 58, n., 3d; 66, w., 9th; 74, n., 14th; 58, nw., 15th; 72, nw., 16th; 76, w., 20th; 72, nw., 22d; 70, n., 23d; 76, w., 24th; 50, w., 25th; 80, w., 26th; 72, nw., 27th; 56, nw., 28th; 64, w., 29th; 58, w., 30th; 56, n., 31st.

Cape Mendocino, California, 50, se., 5th; 76, se., 6th; 72, se., 7th; 60, se., 8th; 64, se., 10th; 72, se., 11th; 52, se., 12th; 65, se., 27th; 88, s., 28th; 70, se., 29th; 56, se., 30th; 52, se., 31st.

Fort Canby, Washington Territory, 50, se., 7th; 50, s., 12th; 50, s., 13th; 50, se., 15th; 58, s., 28th.

Block Island, Rhode Island, 51, ne., 6th.

Chincoteague, Virginia, 52, nw., 6th.

Nantucket, Massachusetts, 50, ne., 7th.

Tatoosh Island, Washington Territory, 51, se., 12th.

Fort Assinaboine, Montana, 52, s., 13th.

Fort Maginnis, Montana, 52, w., 13th; 54, w., 19th.

Valentine, Nebraska, 56, nw., 14th.

Fort Elliott, Texas, 52, nw., 14th.

Sandusky, Ohio, 52, n., 15th.

Fort Totten, Dakota, 50, sw., 20th.

Fort Buford, Dakota, 50, w., 20th.

Kitty Hawk, North Carolina, 52 ne., 25th.

INLAND NAVIGATION.

STATE OF WATER IN RIVERS AND HARBORS.

Heavy ice formed on the Mississippi River in the vicinity of Cairo, Illinois, on the 1st. Owing to the low stage of water in the river, and its consequent liability to freeze quickly, the Anchor line of steamers went into winter quarters as they arrived at this port. On the 4th the river had become covered with heavy ice from the mouth of the Ohio to Saint Louis. At Bird Point, Missouri, the junction of the Mississippi and Ohio Rivers, the ice had been forced up to such a height around the "cradles" that the transfer steamers were unable to reach their wharves. Owing to the low stage of water in the river several steamers were aground a short distance above Cairo on the same date; on the 14th the river was reported by steamboat men to be lower than at any other time during the past five years, and many old wrecks were visible that had not been seen since their destruction. Heavy floating ice passed down the Ohio and Mississippi Rivers at Cairo every day of the month; on the 30th it became heavy enough to impede navigation. At Saint Louis, Missouri, river navigation was suspended on the 1st on account of low water and floating ice; during the afternoon of the same day the Mississippi River was gorged with ice at Warsaw, Illinois, and the Illinois River at Beardstown, Illinois. The observer at Saint Louis, Missouri, states that the Mississippi River was lower during the first five days of the month than at any other time since river observations have been made; after the 6th it began rising and on the 19th was 7.9 feet above low-water mark. On the 6th the ice gorged at South Saint Louis, causing a rise of five feet at points immediately above; the gorge did not break until 4 p. m. of the 10th, and resulted in a rapid decline in the river at this point. Large quantities of ice passed down the river every day of the month. At Dubuque, Iowa, very low temperatures prevailed during the 1st, 2d, and 3d, and ice began forming rapidly on the Mississippi River at Dubuque, on the 1st; on the 3d the river was covered with ice of such thickness as to allow vehicles to cross from one side to the other.

Navigation on the Hudson River became practically closed for the season about the 6th; on that date the ice in the river, from Rondout northward, ranged from two to six inches in thickness and ice men were already at work filling their ice-houses. All the freight and passenger steamers plying between New York City and points north of Poughkeepsie went into winter quarters about the 4th. The propeller "Newburg" left New York City on the 27th for Newburg, but became fast in the ice when two miles north of Cold Spring, New York, and was obliged to return.

Duluth, Minnesota: the water in the harbor became frozen over on the 5th and ice began forming along the lake shore on the same date. A field of ice was observed on the 16th near the south shore; it continued to extend until the 24th, when it was within a mile of the north shore, and at the end of the month had nearly covered the lake.